NORTHERN ILLINOIS UNIVERSITY

An Analysis of My Experience Training for and Running a Marathon

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by

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HONORS THESIS ABSTRACT
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ABSTRACT (100-200 WORDS): This thesis is designed as a guide to runners wishing to run a marathon. Topics discussed in general are training techniques, the physiology of running, nutrition for runners, stress as it is related to running, and one's personality and running. The purpose of this thesis was for the author to learn about the general topics previously mentioned and by doing so learn about herself Also the experience of running a marathon was both a mental and physical challenge. The thesis is based on suggestions from other sources and from this author's one-time experience of training for and running a marathon. The author concluded that by running a marathon, one learns much about oneself, and she also concludes that if the experience was ever repeated, some modifications would be acted upon.

According to legend, marathon running dates back to the fifth century BC when the Athenians were at war with the Persians. Pheidippides, a messenger, ran from the battlefield in the plains of Marathon into Athens, approximately 25 miles, to tell of the Athenian victory. Upon reaching Athens, he proclaimed the victory and then died (Higdon 6). The beginning of my marathon experience began in December 1996 when I decided to run a marathon, and I made a goal of finishing the race in four hours. I eventually chose to run the Madison Marathon on May 25, 1997, which was the now standard distance of26 miles and 385 yards. Marathon running can be analyzed by observing and learning about the training techniques, the physiology behind running a marathon, the nutritional habits of marathon runners, the effects of stress on runners, and the interplay between personality and running.

Runners would have a difficult time completing a marathon without doing the proper training. The most important aspect of training for a marathon is having a schedule or training plan in mind before starting. Having a plan will prevent over- or under-training. According to Martin and Coe, runners should "do the least amount of the most sensible training" in order to meet their goals (234). A training schedule begins approximately four to six months before the marathon race date, assuming training already occurs on a regular basis (Higdon 103). Ifnot, then a base mileage program should begin more then six months prior to the marathon. Since I am a member of the NIU Cross Country team, I already ran on a regular basis so I started my marathon training in January, 1997, five months before my marathon. (Refer to the Appendix on pages 16 to 18 to read a brief description of my training workouts from January 1 to May 25, 1997.)

The axis of marathon training is the long run. Over five of the six months prior to the race, the long run is gradually increased by ten percent each week to a peak of around 20 miles (Martin and Coe 233-4). The peak long run of20 miles is usually done approximately one month before the race. My longest run was actually done in the pool because of an injury. I did water running on April 27, 1997, for two and a half hours, which was comparable to a twenty mile run. Long runs serve a few different purposes in the training process. The first benefit works with the suggestion to refuel during the marathon race, because "by simulating the marathon by running long runs, one can experiment with different fuels and find which one best suits that individual" (Bloch 91). Another benefit is physical. Running for long periods of time or over long distances increases aerobic endurance which helps the body to use fuel stores more efficiently. Lastly, long runs mentally prepare runners to focus on a task for a long period of time, sometimes hours.

Another type of training useful to marathon trainees is speedwork. Speedwork, running at a predetermined faster pace, is usually done after a good endurance base is built. Some type of speedwork is suggested as a workout once or twice a week. Because I was also training for our track season, I ran three speed workouts per week. More speedwork is necessary if the runner wants to compete in the race rather than just finish. Bloch suggests the following speedwork over the four months prior to the race:

> Weeks 1-4: tempo running, long hill repeats
> Weeks 5-8: fartlek running (longer intervals)
> Weeks 9-12: longer aerobic intervals (timed)
> Weeks 13-16: shorter aerobic intervals (timed) (113).

Tempo running is running near race pace for a certain amount of time, while fartlek running is a run during which fast and slow paces are alternated for certain time periods or distances. An example of longer aerobic intervals is repeating a ten minute run at a medium to fast pace with a short recovery period in between. Short aerobic intervals are similar to long ones except that the fast paced run is for a shorter time period (Bloch 113-114). Speedwork can be done on a track over certain distances, by running anywhere fast for certain time intervals, or by running quickly up or down hills (Bloch 94). I prefer to run on a track when I am concentrating on proper form and for short distances. When longer time periods or longer distances are part of the workout, I like to run on the streets making up the route as I go. This strategy adds to the variety of the workouts, and variety is the key to keeping speedwork fun. Speedwork may not enter the mind when the word "marathon" is mentioned, but speedwork does have some benefits to preparing for the big race. Speedwork can "condition [runners] mentally to tolerate sustained periods of running at a constant pace," and prepare runners for being fatigued which happens during a marathon (Martin and Coe 233-4). Speedwork helps runners to run faster thus improving their time over a certain distance; speedwork makes running form efficient; and speedwork helps the runner to concentrate on a challenging task (Higdon 63-66). One way to see individual improvement over a certain time period is by repeating a particular workout at a later time period and comparing the performances. Also speedwork improves cardiovascular endurance, muscular strength, and muscular endurance which all help runners to run faster.. Speedwork, if done correctly, can indirectly reduce the risk of

injury by forcing running form to be efficient and by making the body stronger (Bloch 108-109).

One last type of training for marathon running is cross-training. According to Bloch, cross training should make up 20 to 25 percent of aerobic marathon training (85). Cross-training could include swimming, cycling, water running, aerobics, or stair climbing. Cross-training gives training some variety, works different muscles, and gives the running muscles, especially the leg muscles and joints, a reduction in stress. Cross-training can reduce the risk of injury for these very reasons. I did not make cross-training part of my training until I became injured, and for a time all I could do in the form of exercise was cross-training. My favorite cross-training activities are cycling and water running. Tied in with cross-training is weight lifting. Weight lifting is important for building and maintaining strong muscles which helps prevent injury. Weight lifting should be performed two to three times a week for optimal results (Bloch 97).

Training is pretty routine until a month before the race. Four weeks before the marathon is the peak time - the time at which one does the most mileage and the longest long run. After that time period, the training tapers as such: total mileage run is cut, the frequency of training is decreased, the distance is decreased but the intensity is not (Higdon 100-101). Four weeks before the race weight lifting is reduced by half and recovery time during speedwork intervals is increased (Bloch 125). Three weeks before the race one should decrease running mileage by 25 percent and reduce the amount of cross-training. Two weeks before the race one should cut running mileage by 50 percent and eliminate weight lifting (Higdon 103, Bloch 125-6). One week before the race cross-

training should be eliminated, only one speed workout should be run, runners should get plenty of sleep, and runners should begin increasing their carbohydrate intake to boost carbohydrate stores (Bloch 128-130, Higdon 104). Throughout marathon training, rest days are important, but especially in the last few days before the race. Higdon recommends resting both three and two days before the marathon (105). Resting means no running but also no cross-training or weight lifting. Bloch advises runners during this second rest day to eat a high carbohydrate meal in the evening so that their bodies have plenty of time to digest it and put the carbohydrates into storage for the race (133). I ate pasta and breadsticks and drank plenty of water.. Also runners should get plenty of sleep and avoid excessive caffeine or alcohol since these fluids can dehydrate the body (Bloch 133-137). The day before the race, runners should eat a light breakfast that is high in carbohydrates, stay relaxed, visualize their ideal race performance, prepare their racing apparel, and get to bed early even if they cannot sleep (Bloch 136-7). I also followed a suggestion by Higdon to do some light running to loosen up the muscles, and I ran twenty minutes of easy jogging the day before the race (105). My friends and I drove the race course the day before the race which was not relaxing, although having seen the course was comforting to me during the race. If I drove the course again before a marathon, I would do so more than one day before the race so I would not have that stress.

The schedule of the race day is different than on training days. The final meal eaten before the race should be eaten three to four hours before the race, and the meal should consist of what is normally eaten before going on a long run. Since my race started at 7:30 AM, I woke up at 4:30 AM and ate a bagel, applesauce, and a banana. Also

runners should drink lots of water during these last hours before the race so they do not start out the race dehydrated (Bloch 141-143). Then any normal prerace rituals can be performed. I did some stretching and walking around and drank some more water. Shoes and clothing that are comfortable and appropriate for the weather should be worn, because 26.2 miles is a long way to be uncomfortable (Martin and Coe 239). According to Martin and Coe, runners should start running the race at a slower pace than they expect their average pace to be, so that they do not run too fast and then run out of carbohydrate fuel (239). I started out running at a comfortable pace, but I did not worry too much about going fast. During the race, runners should drink plenty of fluids and perhaps consume some carbohydrates in the form of sports drink or energy bars or other sources (Martin and Coe 233). Mostly I drank water during the race; near the fourteen mile mark I ate a banana and drank some sports drink. I drank water at almost every water station whether I felt thirsty or not. After the race is over, runners should continue to drink fluids and eventually consume carbohydrates as well as keep their legs moving by walking around. I had some water, fresh fruit, and some bread immediately after the race. Also I walked for about a mile after getting through the check out line. In the week or weeks after the race, runners should relieve any muscle soreness by stretching, massaging, elevating their legs, doing low level activities that use their sore muscles, by drinking plenty of fluids, and getting plenty of sleep (Bloch 158-9). My muscles were sore for at least a week after the marathon. Walking up and down stairs caused the most pain. I did my routine activities which involves some walking, and also I took an ice bath two days after the race which relieved a lot of muscle soreness.

Training, racing, and recovering from a race all have different effects on human physiology. Long runs combined with a high carbohydrate diet, increase the glycogen reserve, the main fuel, in muscles (Martin and Coe 235). Fats and carbohydrates are the two main fuel sources for muscles. As the intensity and duration of exercise increase, the body relies more on carbohydrates as a fuel source. With training, the need for carbohydrates as fuel is delayed so fatty acids are used and thus some of the need for glycogen or carbohydrates is spared (Mahler and Loke 90). Training not only has an impact on your fuel usage, but it also improves the respiratory, cardiovascular, and musculoskeletal systems by making them more efficient (Mahler and Loke 93). By increasing the carbohydrates in the diet a few days before the race, runners will be able to run a faster time. The extra carbohydrates will not help runners to run a faster pace, but they will help to keep a consistent pace for a longer time period which improves overall time (Mahler and Loke 94).

During the race, certain physiological events take place. Training for and running a marathon mostly involves aerobic, as opposed to anaerobic, activity. Marathon runners that have a high level of maximal oxygen consumption, or V02 max-aerobic capacity, and whom are able to use a high percentage of that V02 max while running will be strong competitors in the marathon (Mahler and Loke 87). Maximum V02 is described as "the volume of oxygen a person can consume during exercise," and is dependent on the heart's ability to pump blood to the muscles and the muscles' efficiency to use the oxygen in the blood (Higdon 123). The heart rate of marathon runners is high but variable during the race. The heart rate is high because of the effort needed to run, and the heart rate changes

as runners go up or down hills or as they speed up or slow down. In elite marathon runners, cardiac output which is the volume of blood pumped through the cardiovascular system per unit of time, reaches 92 percent of its maximal capacity. The heart needs to keep blood circulating through the body especially to the muscles so they have plenty of oxygen. In long distance running, Type I or slow twitch muscle fibers are used because they are more resistant to fatigue than other muscle fibers. However, as these fibers get fatigued in the later stages of a marathon, Type II or fast twitch muscle fibers can be recruited to keep runners moving (Mahler and Loke 88). The ideal conditions of a marathon would be a flat course, cloudy skies, cool temperatures, little wind, and good competition (Martin and Coe 232). However, no race is ideal and differences in conditions do affect runners. For example, five to eight percent of oxygen requirements are used to overcome air resistance or wind (Mahler and Loke 91). Air temperature, either too hot or too cold, a hilly course, or very humid air can all affect the end performance in a marathon. Fortunately, May 25, 1997, in Madison, Wisconsin, was an overcast, cool day with temperatures near 50 degrees Fahrenheit and little wind or humidity. Also the course was relatively flat and went through Madison neighborhoods, parks, downtown, and through college campuses. I usually prefer to run with the sun shining down on me, but the sun would have been pretty warm after 26.2 miles and almost four hours of running.

Late in the race, typically around the 20 mile mark, some runners experience a phenomenon called "hitting the wall." This phenomenon occurs when the glycogen stores are depleted which causes runners to feel profound fatigue and to slow their pace

dramatically (Martin and Coe 235). Once the glycogen stores are used up, fats become the primary fuel source. Because using fat as fuel is less efficient than using glycogen, running pace slows down (Stamford 167). Hitting the wall can occur for a few different reasons. First if excess carbohydrates are not stored by increasing the carbohydrates in the diet, the fuel for the body will run out sooner.. If overtraining occurs by not resting the last week prior to the race, the body will have used up any glycogen stores. If training has not been sufficient, the body will not be able to store enough glycogen to get through the race. Also if the race is not run efficiently by going too quickly up hills or by keeping a pace that is too fast for the capability of the runner, hitting the wall might occur (Stamford 168). Whether hitting the wall occurs or not, after the race the muscles will be fatigued and inflamed, and muscle fiber necrosis or death will occur up to seven days after the race (Mahler and Loke 91). Wear and tear damage on the muscle fibers, even muscle cell death, is produced from such a long period of running. So it is important to drink fluids and rest muscles in the weeks following a marathon.

Nutrition also plays a large part in the training for and running of a marathon. The three main groups of foods to consume are carbohydrates, proteins, and fats. During the training period, carbohydrates should make up between 50 and 60 percent of the calories in a runner's diet. Proteins should categorize 15 to 20 percent of the calories, and fats should characterize no more than 30 percent of the calories in a runner's diet (Bloch 190-191). Equally important is to maintain proper vitamin and mineral intake and also to drink plenty of water (Bloch 199-200). Some typical runner foods, according to Bloch, are bagels, bananas, cereal, cookies, fig bars, fish, pasta, peanut butter, pizza, poultry,

pretzels, and yogurt (212). This mix offoods can be maintained by eating a balanced diet and also by paying attention to food content labels.

In the racing period, the nutritional needs of the runner change slightly. Increasing the complex carbohydrates in the diet a few days prior to the race increases the fuel stores in preparation for the long race. In the three to five hours before the race, runners should consume a light carbohydrate meal to complete the fuel stores (Martin and Coe 236). For me, this meal consisted of a bagel, some applesauce, and a banana. Higdon suggests that this meal be something runners are used to eating before a long run so intestinal difficulties do not occur (120). In the three hours prior to the race, water as opposed to sports drinks, is the best fluid to consume, because water does not affect blood glucose levels. Drinking a sports drink would upset the glucose and insulin levels in the bloodstream and liver which would then reduce the amount of glucose in the bloodstream (Martin and Coe 236). Less glucose in the bloodstream means less glucose going to the muscles to be used as fuel. During the race it is important to stay hydrated by drinking water or sports drinks. The sports drinks give extra carbohydrates to refuel during the race. Sports bars are also a popular method of refueling during a race, but any method of refueling should be attempted first in practice to see what works best for the individual. After the race, drinking fluids is important for helping muscles recover and to prevent dehydration. Also eating or drinking carbohydrates is necessary to refuel energy stores after the long race (Bloch 154). Once initial recovery takes place, eating more proteins and fats is important for rebalancing the diet because before the race excess carbohydrates were being

consumed. Also protein is needed to help rebuild the muscles that have been damaged by running a marathon (Brouns 123).

Throughout the training period, during the race, and after the race, I noted the physiological and psychological effects of stress from my life on my running performance. I tend to be a busy person, but when I was under added stress from an extra busy schedule, I would find myself more irritable, more easily fatigued, and sometimes less focused while running. More often running was an escape for me, a state of mind where I could refocus for projects ahead, and often I would organize my plan of attack for the rest of the day or week while I was running. Unfortunately while thinking about other things rather than the workout at hand, my running performance may not have been optimal. On the other hand, thinking about other issues than the workout often got me through the workout, because I was not focusing on how difficult the task was or how tired I was feeling or how much pain I was experiencing. Sometimes concentrating only on running was another way of escaping, because I could forget about later responsibilities and only think about the present task. This state happened less frequently because I have a difficult time forgetting about responsibility. Often running rejuvenates me physically and psychologically from a stressful day, because I feel a sense of accomplishment in completing such a demanding task which requires both physical and mental energy. The somewhat social atmosphere of running with a group of people can be a release from stress also, because we always laughed about something and someone was available to share stories about busy days and plans ahead.

The two weeks before my race were low stress weeks because I was not in school and I was able to get adequate rest. Although I have no other marathon race experience, I believe this low stress time had a positive influence on my marathon race. I did not hit the wall and I had a positive attitude throughout the race; I never felt once that I would not finish the race and not feel well afterwards. After the race, immediately and the next weeks, I was on a high after finally realizing my accomplishment in completing a 26.2 mile race and even meeting my goal time by completing the race in three hours and 52 minutes. I did experience a mental withdrawal from not running, but physically my body needed a rest. I had fought injury through the last month of training and continued to feel the physical effects of running a marathon and the injuries in the few weeks and months after the race. Recovering from an injury can be a long and tedious process which was frustrating to me because running was so much a part of my routine during my six months of training. The frustration came because it was not that I did not want to run, but I was not able to run without pain or without risking further long term injury.

One great advantage to spending so much time and effort in training for and running a marathon is the gain of knowledge of personal running quirks. I found that the best time of day for me to go on an easy run or a long run is in the morning. This time of day is most peaceful for me and sets the mood for the rest of the day. I feel awake and ready to tackle any project after a run in the morning. Also I do not have to plan my daily running workout into the rest of my day so I have one less thing to think about getting done. I find I am more disciplined about doing my workouts if I just get up and do them first thing in the morning. On the other hand, I prefer to do hard workouts in the

afternoon. This preference is probably partially due to the tradition of our Cross Country practice taking place at this time in both high school and college. By this time in the day, I have had time to prepare myself mentally to focus on doing my best in theworkout. Also my body has had a chance to wake up and get loosened up.

In my experimenting with what to eat before running, I found some likes and dislikes. If I am eating only an hour or less before running or eating while running, I found bananas and fig bars to agree best with my stomach and also provide for my nutritional needs. If I am eating two to four hours before running, I can eat most things without suffering an upset stomach. I prefer to eat pasta, bagels, applesauce, granola bars, and fresh fruit such as apples, bananas, and oranges. I did find that eating meat two to four hours before running was not in agreement with my stomach, because it usually was not digested as quickly as the other foods. Also eating vegetables or salad before a hard workout left me with an upset stomach.

Throughout the training period especially, I learned much about my personality. I learned that I can be very stubborn and determined. Even though I was injured, I still wanted to run the marathon and I did lots of cross training in order to stay in shape. I also learned that runners have high pain tolerance which can be detrimental if you are trying to recover from an injury. I am sure some times I was running on injuries when I really should not have been. I found that I do not like to quit things I have started. All of these traits can be used to my advantage and disadvantage, and I found a fine line distinguishes the good and the bad of these traits.

By researching and journaling, I learned a lot about marathon training techniques, physiological effects of running, nutrition for runners, the effects of stress on myself, and about my personality and running preferences. Through this experience of learning even more about running and about myself, I would change future marathon race experiences by running less speedwork and running more distance in my training, by doing more muscle stretching and preventive icing and heating to prevent getting injuries, by acting on my knowledge of when to rest and not run on injuries, and by doing more cross-training. Running a marathon is an experience I will never forget..

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January 1, 1997 - 50 min
January 2, 1997 - 45 min HR 155-163
January 3, 1997 - 45 min
January 4, 1997 - 10 min warmup (WU), 30 min tempo run HR 166-173, 10 min cool down (CD)

January 5, 1997 - 70 min
January 6, 1997 - rest
January 7, 1997 - rest
January 8, 1997 - 50 min
January 9, 1997 - 50 min
January 10, 1997 - rest
January 11, 1997 - 10 min WU, 35 min tempo run HR 166-173, 10 min CD

January 12, 1997 - rest
January 13, 1997 - 40 min HR 160-165
January 14, 1997 - 55 min
January 15, 1997 - 0.5 mile WU, 3 x 8 min hard (5 min rest between), 6 x 150m (35 sec rest between), 0.5 mile CD
January 16, 1997 - 55 min
January 17, 1997 - 10 min WU, 3 x 10 min hard (5 min rest between), 15 min medium, 5 min CD, lift weights
January 18, 1997 - rest

January 19, 1997 - 40 min
January 20, 1997 - 62 min
January 21, 1997 - 40 min
January 22, 1997 - 10 min WU, 35 min tempo run HR 175-178, 15 min CD, lift weights
January 23, 1997 - 40 min
January 24, 1997 - 10 min WU, 3 x 12 min hard (5 min rest between), 10 min CD, lift weights
January 25, 1997 - 40 min

January 26, 1997 - 60 min
January 27, 1997 - 10 min WU, 4 x 8 min hard (3 min rest between), 13 min CD, lift weights
January 28, 1997 - 45 min
January 29, 1997 - 22 min medium run, lift weights
January 30, 1997 - 40 min
January 31, 1997 - 10 min WU, 2 x 4 min, 3 min, 2 min, 1 min hard (2 min rest between), 20 min CD, lift weights
February 1, 1997 - rest

February 2, 1997 - 70 min
February 3, 1997 - 10 min WU, 4 x 3 min, 2 min hard (2 min rest between), 10 min CD, lift weights
February 4, 1997 - 50 min
February 5, 1997 - lift weights, 8 min WU, 6 x 600m, 4 x 200m (2 min rest between), 8 min CD
February 6, 1997 - 45 min
February 7, 1997 - 15 min WU, 25 min tempo run HR 180-185, 10 min CD, lift weights
February 8, 1997 - rest

February 9, 1997 - 80 min
February 10, 1997 - 10 min WU, 4 x 5 min hard (3 min rest between), 15 min CD, lift weights
February 11, 1997 - 40 min
February 12, 1997 - 10 min WU, 45 min aerobics, 10 min CD, lift weights
February 13, 1997 - rest
February 14, 1997 - 55 min
February 15, 1997 - 30 min

February 16, 1997 - 80 min
February 17,1997 - 10 min WU, 4 x 1000m (2 min rest between), 10 min CD, lifted weights
February 18, 1997 - 45 min
February 19, 1997 - 10 min WU, 10 x 400m (rest between), 6 min CD, lift weights
February 20, 1997 - 55 min
February 21, 1997 - 10 min WU, 25 min tempo run HR 183-185, 10 min CD
February 22, 1997 - 80 min

February 23, 1997 - rest
February 24, 1997 - 10 min WU, 7 x 600m (rest between), 10 min CD, lift weights
February 25, 1997 - 55 min
February 26, 1997 - 10 min WU, 2 x 800m, 2 x 600m, 2 x 400m, 1 x 600 (4 min rest between), 10 min CD, lift weights
February 27, 1997 - rest
February 28, 1997 - pool workout, 15 min WU, 10 x 1 min exercises, 10 min CD, lift weights
March 1, 1997 - 15 WU, 25 min tempo run HR 170-179, 15 min CD

March 2, 1997 - 90 min
March 3, 1997 - 10 min WU, 5 x 1000m, 10 min CD, lift weights
March 4, 1997 - 45 min
March 5, 1997 - 10 min WU, 13 x 400m (rest between), 10 min CD, lift weights
March 6, 1997 - 50 min
March 7, 1997 - 10 min WU, 45 min tempo run HR 170-177, 15 min CD
March 8, 1997 - 90 min

March 9, 1997 - rest
March 10, 1997 - 10 min WU, 2 x 6 min, 4 min, 2 min, 1 min hard (2 min/1.5 min rest between), 15 min CD
March 11, 1997 - 50 min
March 12, 1997 - 10 min WU, 4 x 5 min, 2 min hard (2 min rest between), 15 min CD
March 13, 1997 - rest
March 14, 1997 - rest
March 15, 1997 - 10 min WU, 25 min tempo run HR 180-183, 10 min CD

March 16, 1997 - 1 hr 40 min
March 17, 1997 - 10 min WU, 20 x 200m (1 min rest between), 10 min CD, lift weights
March 18, 1997 - 60 min
March 19, 1997 - 15 min WU, 5 x 5 min hard (2.5 min rest between), 15 min CD, lift weights
March 20, 1997 - 50 min
March 21, 1997 - 10 min WU, 25 min tempo run HR 180-185, 10 min CD, lift weights
March 22, 1997 - 1 hr 50 min

March 23, 1997 - rest
March 24, 1997 - 10 min WU, 12 x 400m (rest between), 10 min CD, lift weights
March 25, 1997 - 45 min
March 26, 1997 - 10 min WU, 4 x 1000m (rest between), 10 min CD, lift weights
March 27, 1997 - rest
March 28, 1997 - 45 min
March 29, 1997 - WU, 5000m race, CD, WU 3000m race, CD

March 30, 1997 - 60 min
March 31, 1997 - 10 min WU, 4 x 10 min hard (2.5 min jog rest), 10 min CD, lift weights
April 1, 1997 - rest
April 2, 1997 - 10 min WU, 2 x 800m, 400m, (rest between), 3 min walk, 1 x 800m, 10 x 50m, 10 min CD, lift weights
April 3, 1997, 15 min WU, 12 min V02 max test, walking CD
April 4, 1997 - 40 min medium pace
April 5, 1997 - WU, 3000m race, CD

April 6, 1997 - 15 min WU, 1 hr 30 min HR 145-155, walking CD
April 7, 1997 10 min WU, 14 x 400m (rest between), 10 min CD, lift weights
April 8, 1997 - rest
April 9, 1997 - 10 min WU, 2 x 10 min, 8 min, 1 x 6 min (2 min rest between), walking CD, lift weights

April 10, 1997 - 15 min WU, 1 hr 30 min HR 145-155, walking CD
April 11, 1997 - 30 min
April 12, 1997 - 10 minWU, 40 min tempo run HR 171-174, 10 min CD

April 13, 1997 - 50 min
April 14, 1997 - 10 min WU, 5 x 5 min hard (2 min rest between), 10 min CD, lift weights
April 15, 1997 - rest
April 16, 1997 - in pool, 10 min WU, 25 min tempo water run HR 160-167, 10 min CD
April 17, 1997 - in pool 50 min
April 18, 1997 - in pool, 27 min HR 130-140
April 19, 1997 - rest

April 20, 1997 - in pool, water running 2 hr 15 min
April 21, 1997 - in pool, 10 min WU, 5 x 5 min hard (2 min rest between), 8 min CD, lift weights
April 22, 1997 - in pool, 50 min
April 23, 1997 - in pool, 10 min WU, 10 min, 8 min, 6 min, 4 min hard (2 min rest between), 8 min CD
April 24, 1997 - rest
April 25, 1997 - in pool, 10 min WU, 45 min tempo water run HR 158-165, 10 min CD
April 26, 1997 - in pool, 60 min

April 27, 1997 - in pool, 2 hr 30 min
April 28, 1997 - in pool, 10 min WU, 45 min tempo water run HR 155-165, 10 min CD
April 29, 1997 - rest
April 30 - ran 45 min, lift weights
May 1, 1997 - 35 min
May 2, 1997 - rest
May 3, 1997 - 40 min

May 4, 1997 - 55 min, biked 45 min, and stairclimber 20 min
May 5,1997 - 10 min WU, 40 min tempo run, 10 min CD
May 6, 1997 - biked 20 min, 15 min stairclimber
May 7, 1997 - 35 min
May 8,1997 - 10 min WU, 3 x 10 min hard (2.5 min rest between) 10 min CD
May 9, 1997 - rest
May 10, 1997 - rest

May 11, 1997 - rest
May 12, 1997 - 1 hr 20 min
May 13, 1997 - rest
May 14, 1997 - 38 min
May 15, 1997 - 30 min
May 16, 1997 - rest
May 17, 1997 - rest

May 18, 1997 - rest
May 19, 1997 - 60 min
May 20, 1997 - 45 min
May 21, 1997 - rest
May 22, 1997 - rest
May 23, 1997 - rest
May 24, 1997 - 20 min
May 25, 1997 - Madison Marathon, 26.2 miles, 3 hr 52 min